

Fig. 1 (a)

Roughening

Side surface

13a

13

13a

(e) This cross-sectional view shows the device in a second state. The substrate 1 is shown with a central rectangular opening 13. The first conductive layer 3 is present on the substrate surface, with a portion 13a exposed within the opening 13. The second conductive layer 7 is deposited over the first layer 3, with its ends 7a and 7b extending beyond the opening. The second conductive layer 7 is divided into segments by vertical insulating layers 11. The top surface of the second conductive layer 7 is textured with small protrusions.

This cross-sectional view shows a semiconductor device 1. It features a substrate 11 with a base layer 5a on top. A series of rectangular openings 3 are formed in the base layer 5a, each filled with a material 103. The openings are separated by walls 7a. A layer 105a is deposited over the walls 7a and the openings 3. On top of layer 105a, there is a layer 107a. A series of small, rounded structures 15 are formed on top of layer 107a. A layer 111 is formed over the structures 15. A layer 13 is formed over the structures 15. A layer 107b is formed over the structures 15. A layer 105b is formed over the structures 15. A layer 7b is formed over the structures 15. A layer 21 is formed over the structures 15. A layer 5b is formed over the structures 15. A layer 109 is formed over the structures 15. A layer 103 is formed over the structures 15.

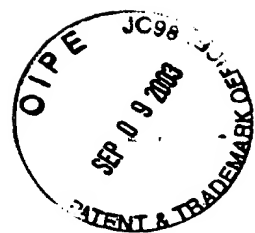


Fig. 3 (a)

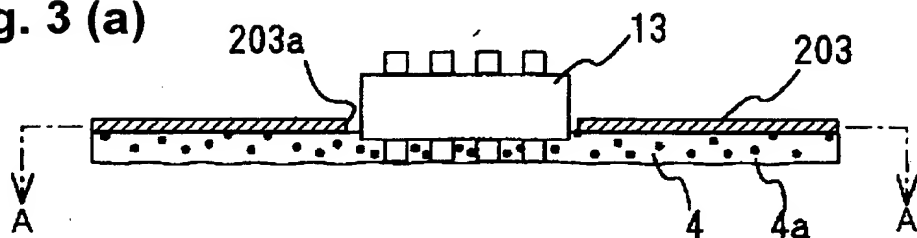


Fig. 3 (b)

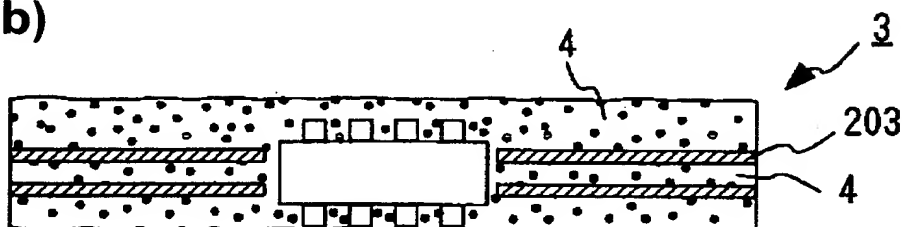
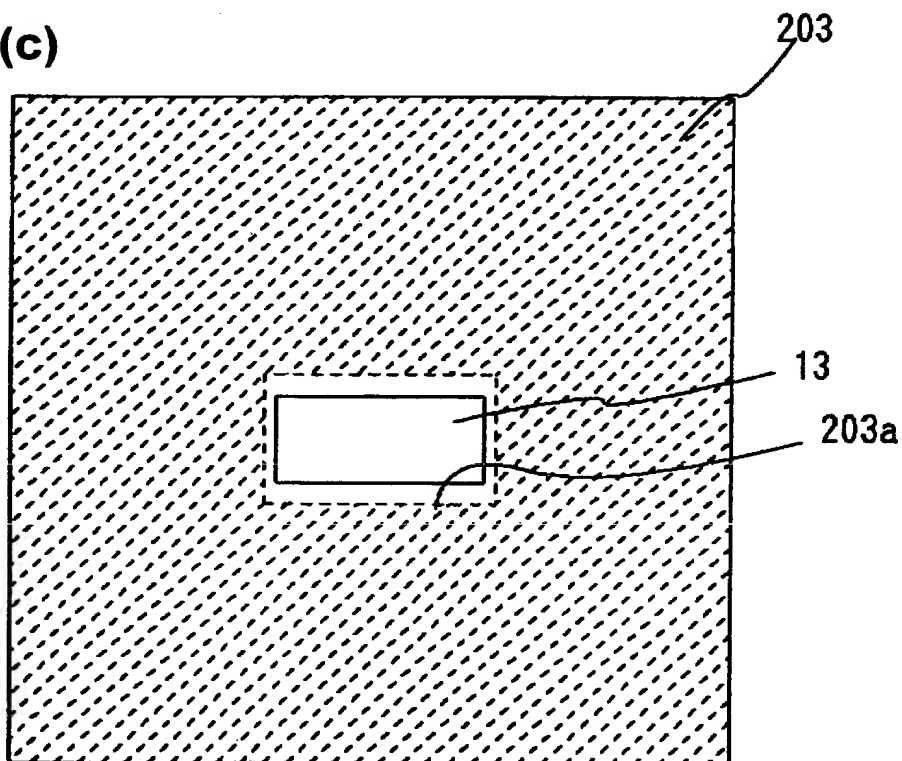


Fig. 3 (c)



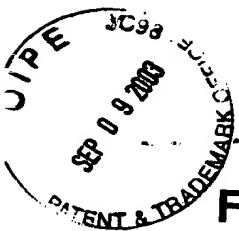


Fig. 5(a)

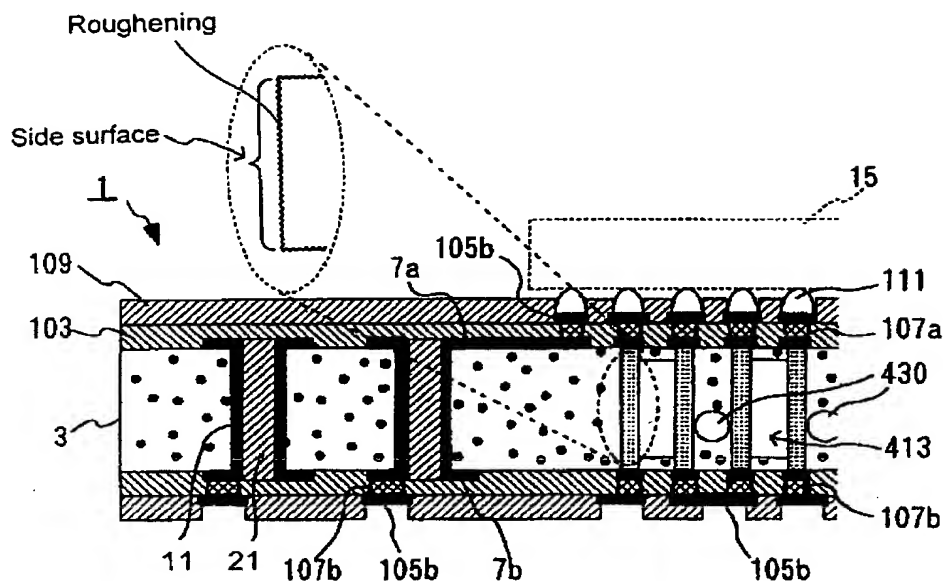


Fig. 5(b)

